

Title: GYLOCOSYLATED
HUMANIZED B-CELL SPECIFIC
ANTIBODIES
Inventor(s): Shui-on LEUNG et al.
DOCKET NO.: 018733-1359

2/16

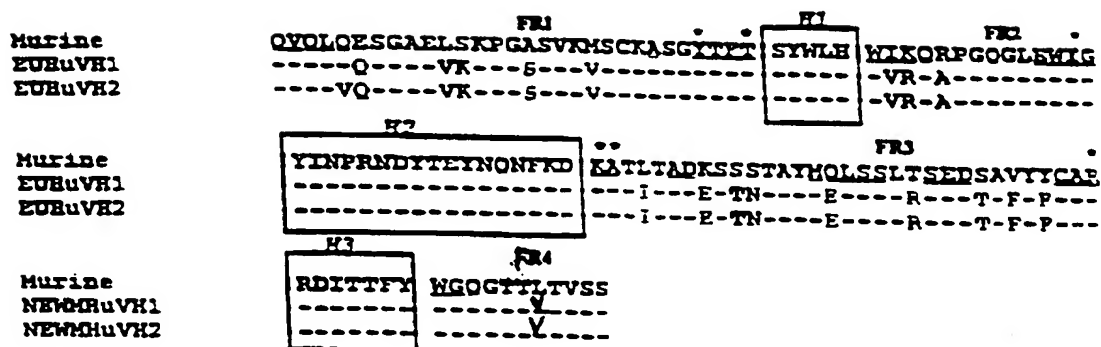


FIG. 1B

3/16

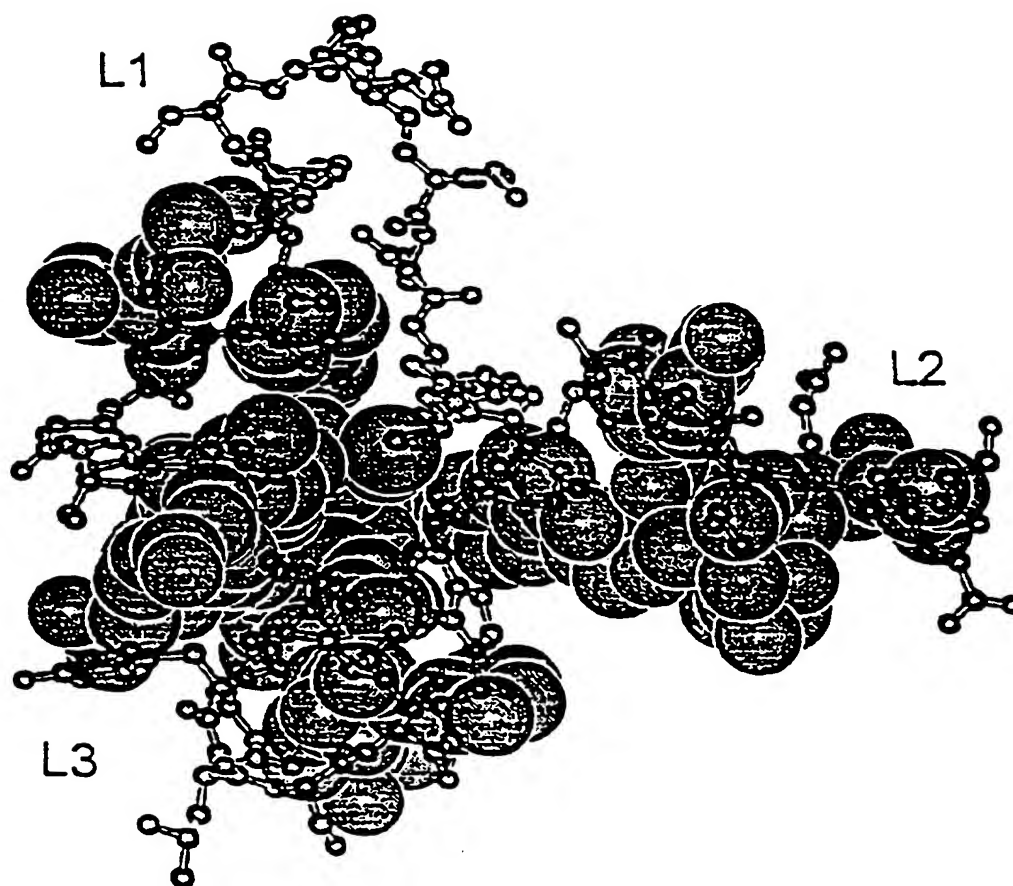


FIG. 2A

4/16

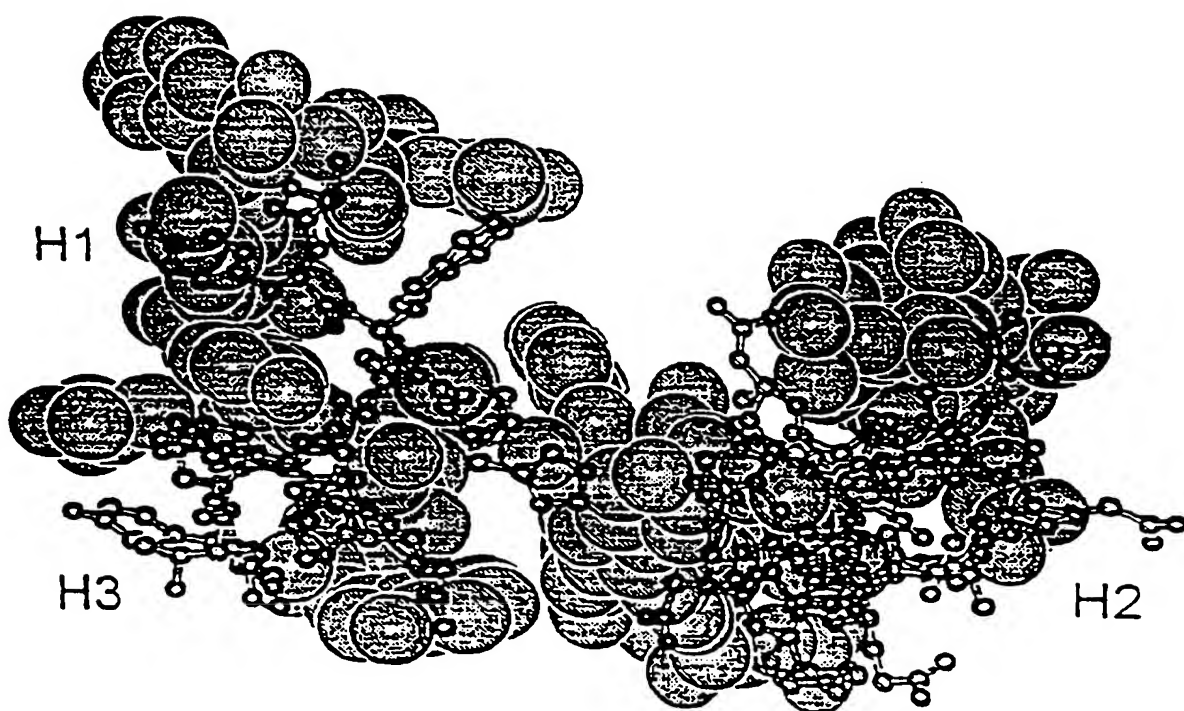


FIG. 2B

Title: GYLOCOSYLATED
HUMANIZED B-CELL SPECIFIC
ANTIBODIES

Inventor(s): Shui-on LEUNG et al.
DOCKET NO.: 018733-1359

5/16

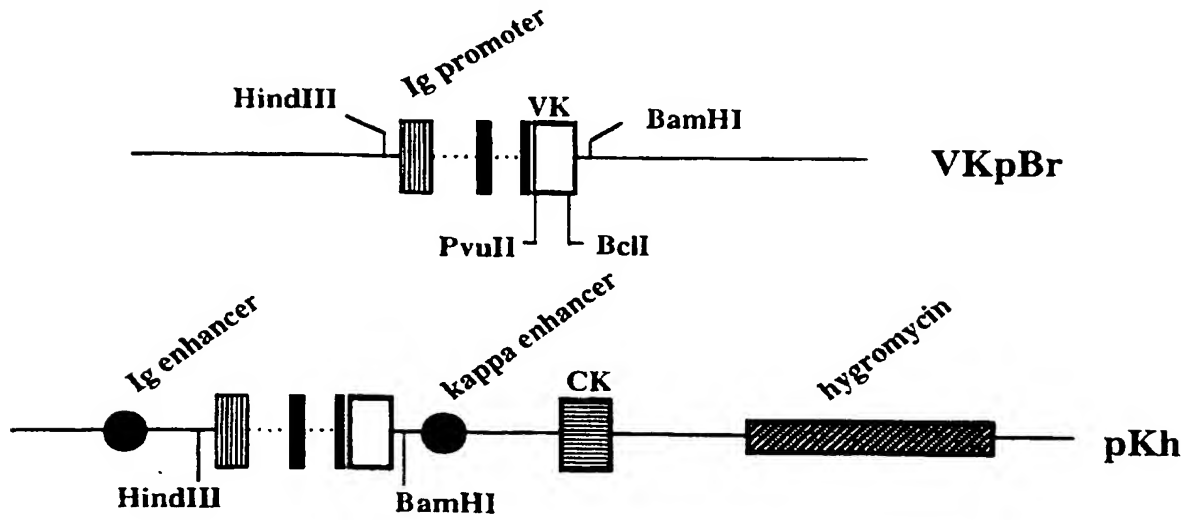


FIG. 3A

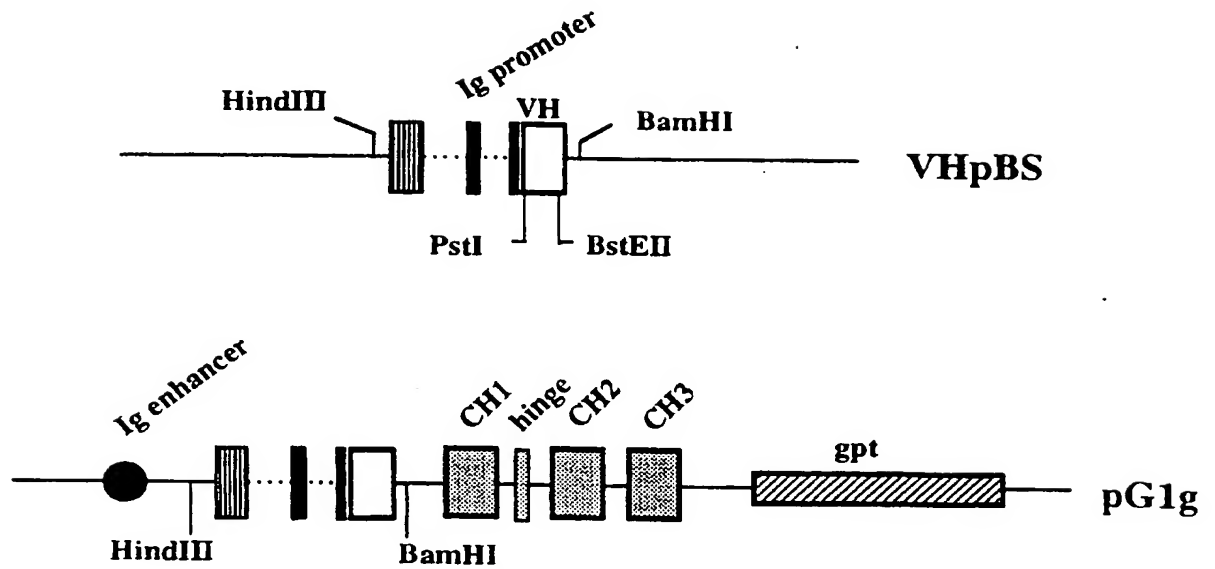


FIG. 3B

Title: GYLOCOSYLATED
HUMANIZED B-CELL SPECIFIC
ANTIBODIES

Inventor(s): Shui-on LEUNG et al.

DOCKET NO.: 018733-1359

6/16

LL2 VK

SEQUENCE ID NO. 3

GACATTGAGCTGACCCAGTCTCCATCATCTCTGGCTGTGTCTGCAGGAGAAAACGTCCT
1-----+-----+-----+-----+-----+ 60
CTGTAAGTCCGACTGGGTGAGAGGTAGTAGAGACCGACACAGACGTCCTCTTTTGCAGTGA
D I Q L T Q S P S S L A V S A G E N V T -
ATGAGCTGTAAGTCCAGTCAAAGTGTTTTATACAGTGCAAATCACAAGAACTACTTGGCC
61-----+-----+-----+-----+-----+ 120
TACTCGACATTCAGGTCAGTTTCACAAAATATGTCACGTTTGTGTTCTTGATGAACCGG
M S C [K S S Q S V L Y S A N E K N Y L A] -
TGGTACCAGCAGAAACCAGGGCAGTCTCCTAAACTGCTGATCTACTGGGCATCCACTAGG
121-----+-----+-----+-----+-----+ 180
ACCATGGTCTGTCTTTGGTCCCGTCAGAGGATTTCAGGACTAGATGACCCGTAGGTGATCC
W Y Q Q K P G Q S P K L L I Y [W A S T R] -
GAATCTGGTGTCCCTGATCGCTTCACAGGCAGCGGATCTGGGACAGATTTTACTCTTACC
181-----+-----+-----+-----+-----+ 240
CTTAGACCACAGGGACTAGCGAAGTGTCGGTCCGCTAGACCCTGTCTAAATGAGAATGG
[E S] G V P D R F T G S G S G T D F T L T -
ATCAGCAGAGTACAAGTTGAAGACCTGGCAATTTATTATTGTCACCAATACCTCTCCTCG
241-----+-----+-----+-----+-----+ 300
TAGTCGTCTCATGTTCAACTTCTGGACCGTTAAATAATAACAGTGGTTATGGAGAGGAGC
I S R V Q V E D L A I Y Y C [H Q Y L S S] -
TGGACGTTCCGTGGAGGGACCAAGCTGGAGATCAAACGT
301-----+-----+-----+-----+ 339
ACCTGCAAGCCACCTCCCTGGTTCGACCTCTAGTTTGCA
[W T] F G G G T K L E I K R -

FIG. 4A

Title: GYLOCOSYLATED
HUMANIZED B-CELL SPECIFIC
ANTIBODIES

Inventor(s): Shui-on LEUNG et al.
DOCKET NO.: 018733-1359

8/16

SEQUENCE ID NO. 5

```

GACATTGAGCTGACCCAGTCTCCATCATCTCTGAGCGCATCTGTTGGAGATAGGGTCACT
1 -----+-----+-----+-----+-----+-----+-----+-----+ 60
CTGTAAGTCGACTGGGTCAGAGGTAGTAGAGACTCGCGTAGACAACCTCTATCCCAGTGA

D I Q L T Q S P S S L S A S V G D R V T -

ATGAGCTGTAAGTCCAGTCAAAGTGT TTTATACAGTGCAAATCACAAGAACTACTTGGCC
61 -----+-----+-----+-----+-----+-----+-----+-----+ 120
TACTCGACATTGAGGTCAGTTTCAAAAATATGTCACGTTTAGTGTTCTTGATGAACCGG
CDR1
M S C [K S S Q S V L Y S A N E K N Y L A] -

TGGTACCAGCAGAAACCAGGGAAAGCACCTAAACTGCTGATCTACTGGGCATCCACTAGG
121 -----+-----+-----+-----+-----+-----+-----+-----+ 180
ACCATGGTCGTCTTTGGTCCCTTTTCGTGGATTGACGACTAGATGACCCGTAGGTGATCC
CDR2
W Y Q Q R P G K A P K L L I Y [W A S T R] -

GAATCTGGTGTCCCTTCGCGATTCTCTGGCAGCGGATCTGGGACAGATTTTACTTTTACC
181 -----+-----+-----+-----+-----+-----+-----+-----+ 240
CTTAGACCACAGGGAAGCGCTAAGAGACCGTCGCCTAGACCCTGTCTAAAATGAAAGTGG
[E S] G V P S R F S G S G S G T D F T F T -

ATCAGCTCTCTTCAACCAGAAGACATTGCAACATATTATTGTCACCAATACCTCTCCTCG
241 -----+-----+-----+-----+-----+-----+-----+-----+ 300
TAGTCGAGAGAAGTTGGTCTTCTGTAACGTTGTATAATAACAGTGGTTATGGAGAGGAGC
CDR3
I S S L Q P E D I A T Y Y C [B Q Y L S S] -

TGGACGTTGCGTGGAGGGACCAAGGTGAGATCTGCCGGTCTCCC
301 -----+-----+-----+-----+-----+-----+-----+-----+ 345
ACCTGCAAGCCACCTCCCTGGTTCCACGTCTAGACGGCCAGAGGG
L E K
[W T] F G G G T K V Q I C R S P -

```

FIG. 5A

Title: GYLOCOSYLATED
HUMANIZED B-CELL SPECIFIC
ANTIBODIES

Inventor(s): Shui-on LEUNG et al.
DOCKET NO.: 018733-1359

9/16

SEQUENCE ID NO. 6

```
CAGGTCCAGCTGGTCCAATCAGGGGCTGAAGTCAAGAACTGGGTCATCAGTGAAGGTC
1 -----+-----+-----+-----+-----+ 60
GTCCAGGTCGACCAGGTTAGTCCCCGACTTCAGTTCTTTGGACCCAGTAGTCACTTCCAG

Q V Q L V Q S G A E V K K P G S S V R V -

TCCTGCAAGGCTTCTGGCTACACCTTTACTAGCTACTGGCTGCACTGGGTCAGGCAGGCA
61 -----+-----+-----+-----+-----+ 120
AGGACGTTCCGAAGACCGATGTGGAATGATCGATGACCGACGTGACCCAGTCCGTCCGT
                                CDR1
S C K A S G Y T F T S Y W L H W V R Q A -

CCTGGACAGGGTCTGGAATGGATTGGATACATTAATCCTAGGAATGATTATACTGAGTAC
121 -----+-----+-----+-----+-----+ 180
GGACCTGTCCCAGACCTTACCTAACCTATGTAATTAGGATCCTTACTAATATGACTCATG
                                CDR2
P G Q G L E W I G Y I N P R N D Y T E Y -

AATCAGAACTTCAAGGACAAGGCCACAATAACTGCAGACGAATCCACCAATACAGCCTAC
181 -----+-----+-----+-----+-----+ 240
TTAGTCTTGAAGTTCCTGTTCCGGTGTTATTGACGTCTGCTTAGGTGGTTATGTCCGGATG

N Q N F K D K A T I T A D E S T N T A Y -

ATGGAGCTGAGCAGCCTGAGGTCTGAGGACACGGCATTTTATTTTGTGCAAGAAGGGAT
241 -----+-----+-----+-----+-----+ 300
TACCTCGACTCGTCGGACTCCAGACTCCTGTGCCGTAAAATAAAAACAGTTCTTCCCTA

M E L S S L R S E D T A F Y F C A R R D -

ATTACTACGTTCTACTGGGGCCAAGGCACCACGGTCACCGTCTCCTCG
301 -----+-----+-----+-----+-----+ 348
TAATGATGCAAGATGACCCCGGTTCCGTGGTGCCAGTGCCAGAGGAGC
                                CDR3
I T T F Y W G Q G T T V T V S S -
```

FIG. 5B

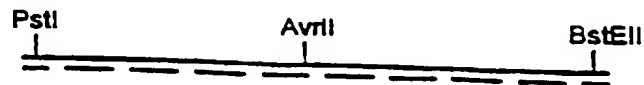
Title: GYLOCOSYLATED
HUMANIZED B-CELL SPECIFIC
ANTIBODIES

Inventor(s): Shui-on LEUNG et al.

DOCKET NO.: 018733-1359

10/16

Designed sequence for humanized LL2 VH domain:



Construction of the humanized LL2 VH domain by long oligonucleotides and PCR:

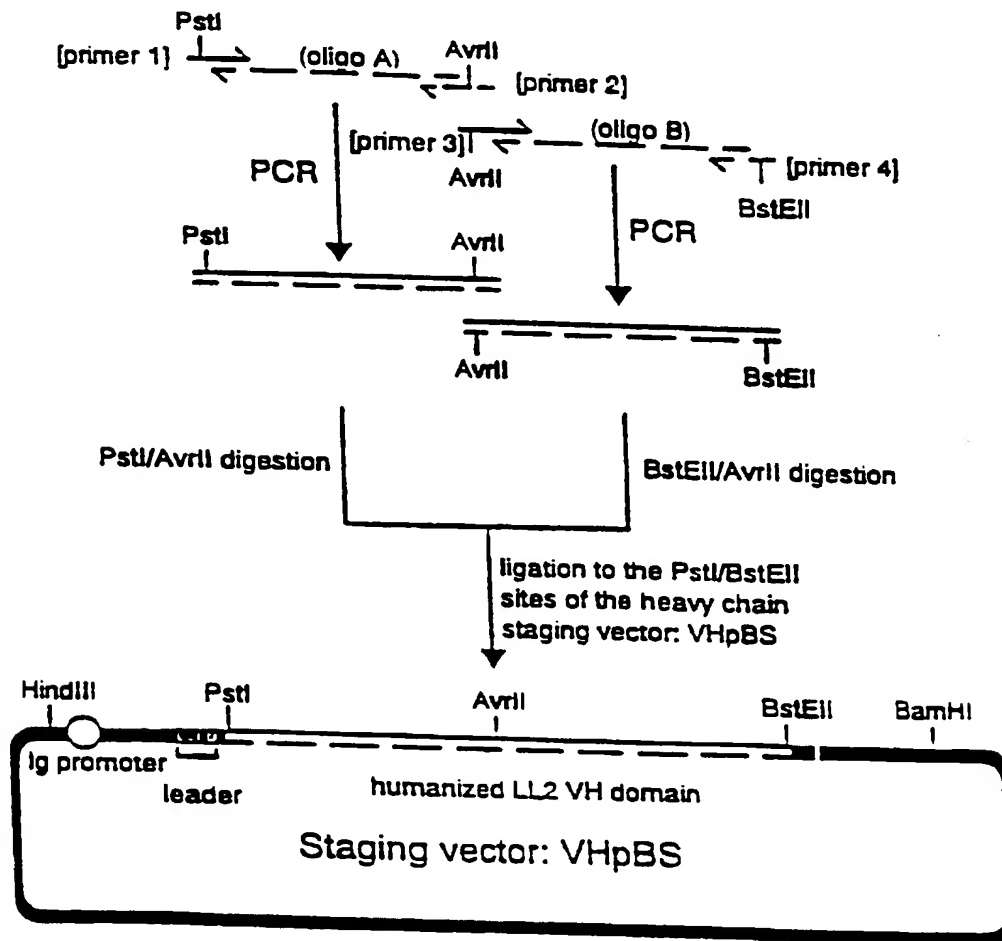


FIG. 6

11/16

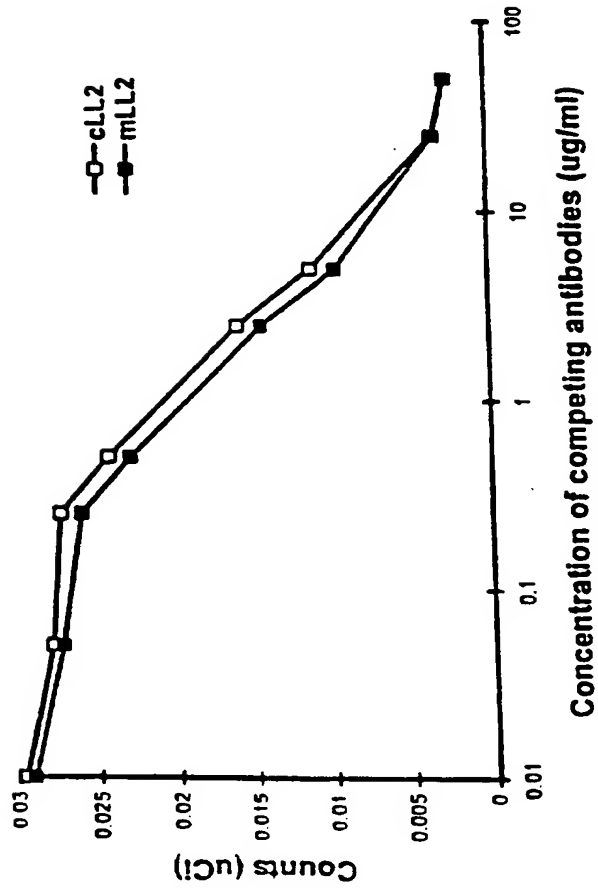


FIG. 7

Title: GYLOCOSYLATED
HUMANIZED B-CELL SPECIFIC
ANTIBODIES

Inventor(s): Shui-on LEUNG et al.

DOCKET NO.: 018733-1359

12/16

FIG. 8B

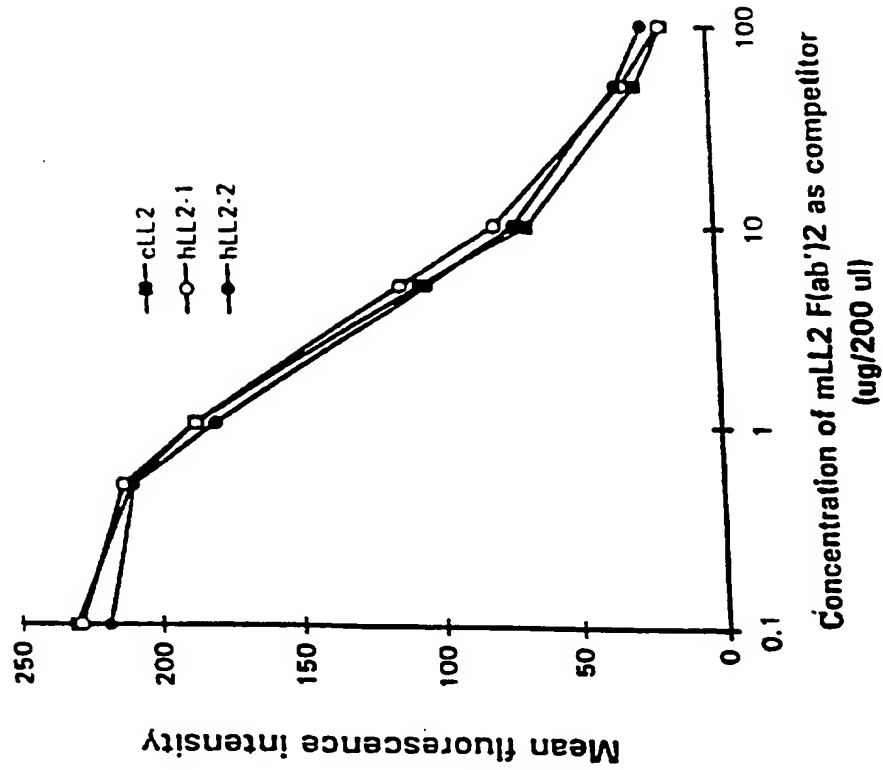
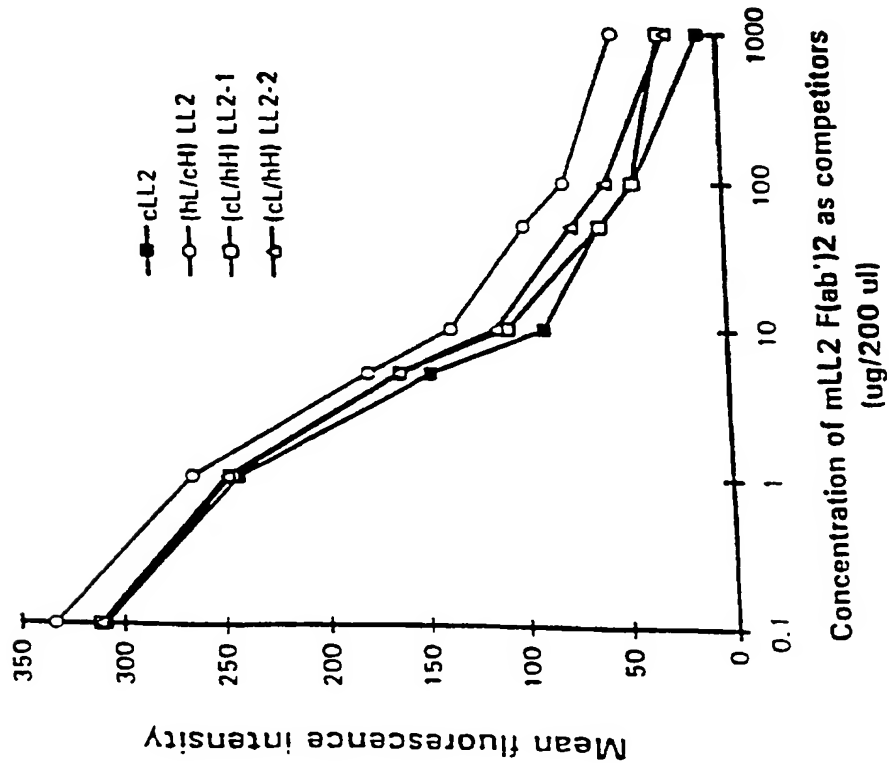


FIG. 8A



Title: GYLOCOSYLATED
HUMANIZED B-CELL SPECIFIC
ANTIBODIES

Inventor(s): Shui-on LEUNG et al.

DOCKET NO.: 018733-1359

13/16

Internalization: c-LL2. h-LL2 vs. m-LL2 in Raji cells

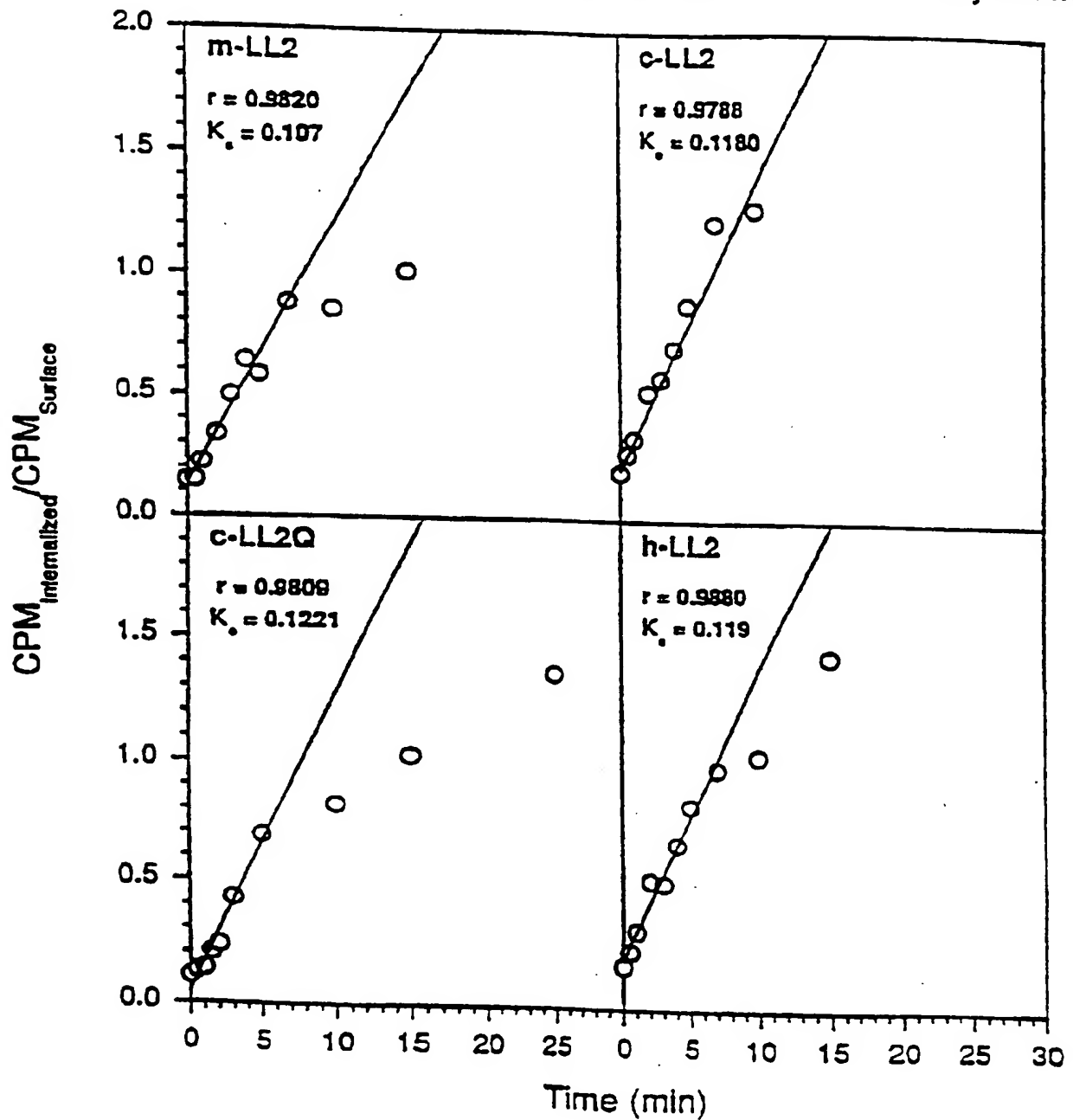


FIG. 9

Title: GYLOCOSYLATED
HUMANIZED B-CELL SPECIFIC
ANTIBODIES

Inventor(s): Shui-on LEUNG et al.

DOCKET NO.: 018733-1359

14/16

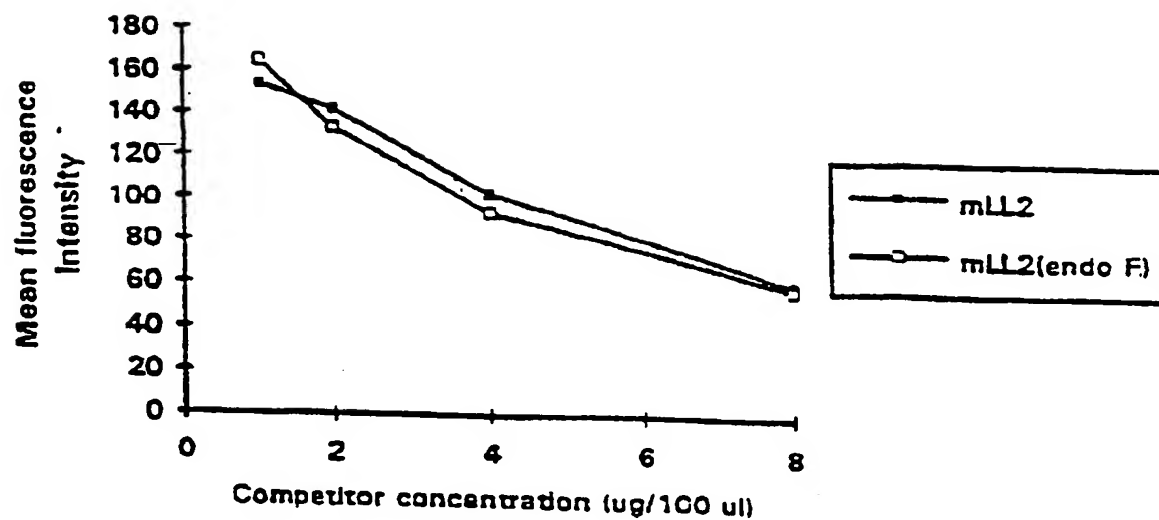


FIG. 10

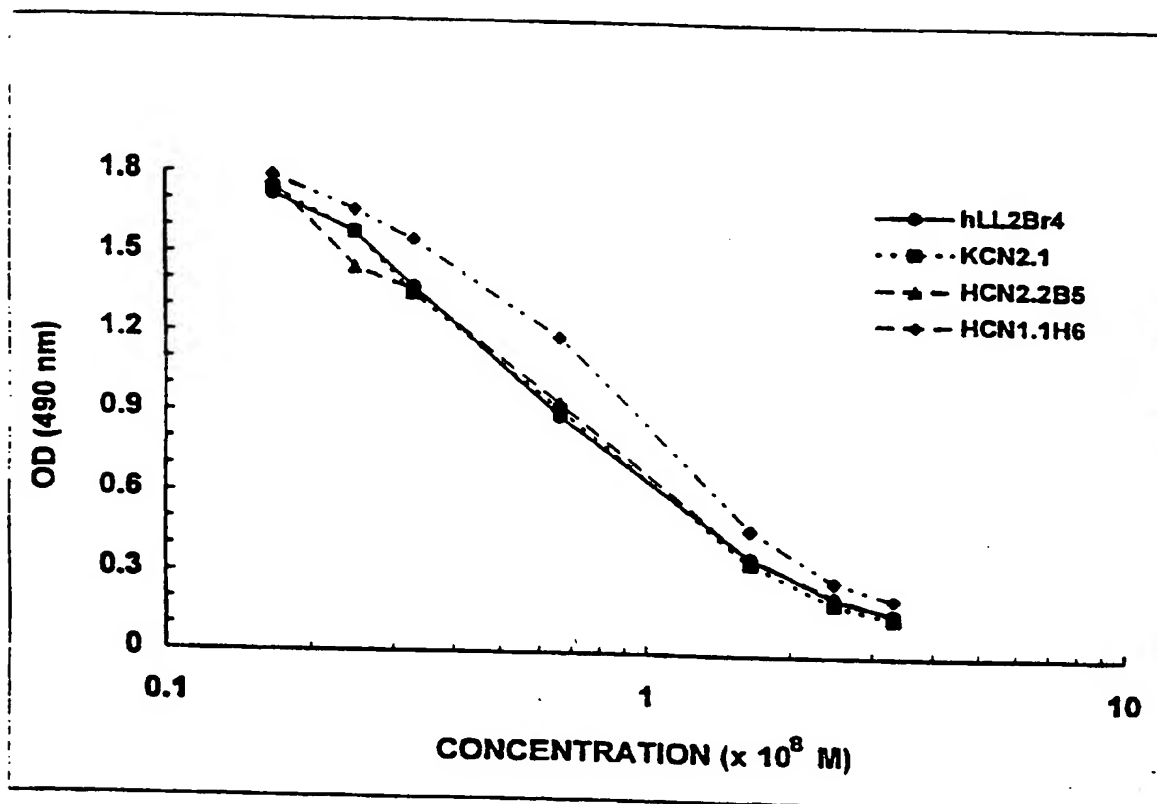
Title: GYLOCOSYLATED
HUMANIZED B-CELL SPECIFIC
ANTIBODIES

Inventor(s): Shui-on LEUNG et al.

DOCKET NO.: 018733-1359

15/16

FIG. 11



Inventor(s): Shui-on LEUNG et al.
DOCKET NO.: 018733-1359

16/16

	149	*	*	*	*	*	207	**
H chain	PEPVTIVSWNSGALIT---	SGVHTFPAVLQSSG	LYSLSSVVTV-	PSSSLGTQTYI				
H1CN1	PEPVTIVSWNSGALIT---	SGVHTFPAVLQSSG	LYSLSSVVTV-	PSSSLGTQTYI				
H1CN2	PEPVTIVSWNSGALIT---	SGVHTFPAVLNSG	LYSLSSVVTV-	PSSSLGTQTYI				
H1CN3	PEPVTIVSWNSGALIT---	SGVHTFPAVLQSSG	LYSNSSVVTV-	PSSSLGTQTYI				
H1CN4	PEPVTIVSWNSGALIT---	SGVHTFPAVLQSSG	LYSLSSVVTV-	PNSSLGTQTYI				
H1CN5	PEPVTIVSWNSGALIT---	SGVHTFPAVLQSSG	LYSLSSVVTV-	PSSSNGTQTYI				
	141						193	
K chain	PREAKVQWKVDNALQSGNSQESVTEQDSKDS	TYSLSSTLTLSKADYEKHKVYA						
KCN1	PREAKVQWKVDNALQSGNSQESVTEQDSKDS	TYSLSSTLTLSKADYEKHKVYA						
KCN2	PREAKVQWKVDNALQSGNSQESVTEQDSKDS	TYSLSSTLTLSKADYEKHKVYA						
KCN3	PREAKVQWKVDNALQSGNSQESVTEQDSKDS	TYSLSSTLTLSKADYEKHKVYA						
KCN4	PREAKVQWKVDNALQSGNSQESVTEQDSKDS	TYNLSSTLTLSKADYEKHKVYA						

FIG. 12